A bicycle race simulation gane

For solo play

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WielerSIM - Cycling Race Simulation

(Ludo Nauws – February 2012)

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1. Introduction

A simulation game with the intention to simulate a race where the player is playing the role of commentator or spectator. He doesn't guide a team or cyclists, but enjoys the course of the race.

It's meant to play a solo campaign in case you don't have other players in the neighborhood. In case there are other players around, it's obvious to go for playing Homas Tour Pro or Leader1 or so ☺

The simulation of a real race consists of 3 parts:

- Design a race track that reflects the particular character of the race that will be simulated.
- Build a peloton of riders to participate – predicting which riders of the real starting list will play a role in the real race.
- Simulate the race.

Since it is a simulation of a real race, you should play this preferably before the real race ☺

The game system is suitable for one day races (classics) as for stage races.

Like in many other games you will find in the rules things that also exist sometimes in other games, but since I have collected more than 150 games it is almost inevitable. But the concept of the simulation is unique.

Appendix 3 gives an impression of a simulated race.

2. Preparation of the game

2.1. Game components

Because the intention is to simulate the races a bit truthful there is need for a flexible system in order not to put too much time in the preparation of a race.   The race is described using a Route Schedule, you find a template and some explanation in Appendix 1.

In appendix 2 you will find some "print and cut" game components that you can use.

You need to have a track and cyclists. For the track you can use a game board or you can build a route using individual track parts. The track is 6 squares wide and there are no indications on it. The inside and the outside of the curves have the same amount of squares. It can be an endless loop, but for the sake of clarity, you should then ensure than a race goes maximum over 2 laps. A typically stage of a Tour is 120 to 160 squares, a one day race form 160 to 220 squares. The size of the squares on the track must be consistent with the cyclists used. This can be small cyclists used in other games or purchased somewhere, but also homemade cardboard ones. It is important that the cyclists have team jerseys and that there are in each team a yellow, red, green, and blue indicated cyclist (to indicate the type of cyclist).

For cobblestones there are special road sections you can print. These secions are 4 squares wide.

The game using the "cut and print" game components from Appendix 2.

Using own stuff.

Since no markers appear on the track there should be worked with separate markers to indicate the important events and places in the race.

You can use colored pawns for the arrival (yellow), the intermediate sprints (green), the top of the climbs (red) and the start (blue) can be idicated., or you can cut them out from Apendix 2.

Mileage markers indicate the number of squares to the finish. Per 20 squares a marker is more than enough.

Red markers with numbers from 1 to 6 can indicate the steepness of the climb sections.
There are simmilar counters created for cobblestones with numbers form 1 tot 4 indicating the roughness of the section.

Rectangular markers in colors yellow, blue, red and green are needed to indicate the start of the section where a particular type of cyclist can accelerate.

If a race is over more than 1 lap there is a convention that the markers that correspond to the final lap will be placed to the right of the track and the markers of the previous lap wil be placed to the left of the track.

3 D10 dice to determine the starting grid and 3 D6 dice for the movement of the riders and a set of numbered counters to use for the intermediate sprints make everything complete.
In case you do not have 3 D10 dice, you may use 4 D6.

2.2. The Peloton

The riders in a team are all of a particular type. Depending on this type, they behave differently in the game.

In a large stage rage (Tour de France, Giro, …) or a race with many climbing a team is composed of a leader, a climber, a sprinter and a helper.
In a race with less climbing a team is composed of 3 riders (the climber is dropped).

The types are indicated on the cyclists using a color code: leader = yelow, climber = red, sprinter = green, helper = blue

A peloton should be limited to approximatly 40 riders.

The riders in the peloton have an hierarchy. This is important because it stipulate the order of play in some gane sequences and the possibility to accelerate on some track sections.
The hierarchy depends on the kind of stage and is defined before the race. In a stage race not all the stages should have the same hierarchy.

For example :

In a mountain stage the order could be   *: climber, leader, helper, sprinter*
In a flat stage   *: sprinter, leader, helper, climber*
In a intermediate stage   *: leader, sprinter, climber, helper*

2.3 Track sections / Road Types

The race track is divided in track sections. Each section as a color and a road type.
The color of the section indicates what type of rider is in advandage on that section. So uphill sections will be mostly red since climbers are in benefit. In some stages uphill sections may also be yellow to indicate that leaders are in advance. Flat roads near the finish line or intermediate sprints are typically green to benefit the sprinters.

Appendix 1 gives an example of a route schedule indicating the track section colors

Besides the color the sections do have a road type, indicating what kind of road it is. It can be flat road, uphill, or cobblestones. Due to game mechanics there is no downhill in these simulation. Each road type gives a different behaviour.

Flat road   No special things, the riders moves as much squares as rolled by the dice.

Uphill   Beside the track there are red markers with numbers from 1 tot 6 indicating the steepness of the climb. Thes numbers should be deducted from the dice roll. So a cyclist starting on a -3 square and rolling 8 will move 5 squares. If the result after substraction is 0 or less the cyclist will always move 1 square. The steepness of the climb increases to the top with a maximum penalty of -6 at te top.

Cobblestone Here are numbers from 1 tot 4 on the track sections indicating the roughness of the cobblestones. The numbers are spread randomly over de section. Like in the uphill section the numbers should be deducted from the dice roll and with a result of 0 or less, the cylist will advance 1 square.

3. The race

3.1. Starting grid

There is always a flying start. This is a situation of a race that is alreaady on-going. The principle is simple: roll for each rider 2D10 and place him on the square in accordance with the dice roll (unless there is on that square row no more space because the track is filled completely with 6 riders besides each other). In that case put the rider on the first empty square behind the blocking riders. The blocking riders don't block riders that would land on a square beyond the blocking row (it is in fact a drafing turn, no movement turn).

An exception is applied for the rider in the leader's Jersey and for the riders with the highest hierarchy in the race. There wil be rolled 3D10's for them and the 2 highest values are used for placing these cyclists at their starting position..

The order of dice rolls for the starting grid is according to the hierarchy of the types of riders in the race. The rider in the leader's Jersey always roll first.

If you do not have 3 D10 dice you may roll 4 D6 instead and may re-roll maxumum 2 dice (with value 1 or 2) for the cyslists with the highest hierarchy in the race.

3.2. Weather

Before the start there is also rolled for the weather. Roll a D6. It's raining at a 1 or a 2.
Halfway the race there will be rolled again to see if the weather changes.

3.3. Movement

3.3.1. Basic

Typically the movement is based on throwing 2D6 for the first rider. The next riders will advance using aspiration (follow the rider who has rolled) until one of following situations happen:

- The dice roll for the first rider was 11 or 12 so he is attacking.
- The movement that the next riders would make using aspiration is less than 6 squares.

- If the movement that the next rider would make using aspiration is 6, 7 or 8 squares and the type of rider corresponds with the color of the track section then he tries to accelerate.

If multiple cyclists stands beside each other, the rightmost goes first for rolling.

In case aspiration stops 2D6 are rolled again to move the next rider and aspiration starts again.

Each cylists moves once per game turn. He moves forward and is placed as right as possible on the track. Except for cobblestone sections were the rider choose the square with the lowest penaty number (less roughness).

3.3.2. Aspiration

The rider using aspiration goes as far as possible using the principle of "maintaining the width of the peloton". The examples below make this clear.

The next rider will use aspiration if he will move 6 to 10 squares. If he would move more squares by using aspiration then the aspiration stops.
The order in which the next rider will try to use aspiration depends on their hierarchy in the race. If there are several riders beside each other, the rider with the highest hierarchy will try first. If riders have the same hierarchy then the rightmost goes first.

On cobblestone sections there is no aspiration possible, every cyclist on it should roll 2D6 !!!!!

Example:

The begin situation. Green is the first rider and there will be a 2D6 roll. Blue, yellow and red will try to use aspiration.

7 is rolled for green and he comes behind the black rider. Since in this race the hierarchy is yellow, green , red and blue, yellow will use aspiration first and comes behind green, moving also 7 squares. Then red uses aspiration and comes behind yellow, moving 6. Blue can not use aspiration anymore because he would only move 5 square (so less than 6) and therefor a 2D6 is rolled for blue. Because green landed in the wheel of a row with only one cyclist, the cyslists using aspiration makes a chain with a width of 1 cyclist. The same would happen if green landed on a square with no other cyclists in front of him.

A new begin situation. Green is again the first rider and a 2D6 is rolled.

Green rolls 9 and moves to the square behind the black riders. Again the others will use aspiration. Due to the hierarchy in this example yellow will first use aspiration before red and blue. Yellow moves 10 squares and comes beside greene due to the fact that green is landed on a square behind a row with 3 black riders. For the same reason red moves also 10 squares and comes beside yellow. So the amount of cyclists on the row before the cyclist who had rolled stipulates the widh of the peloton after aspiration. Blue can also use aspiration, but comes behind green since the width of 3 cyclists is reached. Orange follows besides blue. Neither purple nor yellow can use aspiration anymore since they should have to move 11 squares to come beside orange.
So there will be rolled again 2D6. A roll for purple and yellow using aspiration. In case there is a roll, hierarchy doesn't matter and the rightmost goes first (so purple in this case).

3.3.3. Blocking

When the track is blocked by 6 riders beside each other no other cyclist can pass. The next free square should be used.
This does not count for the starting grid because this is a drafting turn, no movement turn

Example :

Green rolls 9, but since the track is blocked he may move only 5.

3.3.4. Attacking

When the first rider roll 11 or 12 he attacks. The rider that follow may try to counter. He counters whit a roll of 5 or 6 with 1D6. First the rider straight behind may try to counter, if no success the rider diagonlly behind to the right may try. When still no success the rider diagonally behind to the left may try.
Per row of following riders only 1 can counter.

A sprinter can never counter uphill.

Example :

Yellow rolls 12 so he make an attack. First red may try to counter, but he rolls 3. So no success. Black may not try to counter since he is not behind yellow. It's now to green to try and green rolls a 5, so he may still use aspiration. Since blue is straight behind green he is next to try. He rolls a 2, so again a fail. Now purple is trying and rolls a 5 so counter succeeded. Finally orange make also a succesful counter rolling a 6.

				🟨	🟥	🟪	🟧							
				⬛	🟩	🟦								

The situation after the attack of Yellow with still black who had to roll 2D6 and red and blue trying to use aspiration.

				🟨	🟩	🟪	🟧							

3.3.5. Trying to accelerate

The race is composed of track sections that have each a color indicating the type of rider that has some benefit on it. This benefit is the possibility for trying to accelerate. So a leader may try to accelerate on a yellow section, a sprinter on a green one, etc..

When the rider with the corresponding color of the track section would move 6, 7 or 8 squares by using normal aspiration he will try to accelerate. So a 2D6 is rolled. If the roll is higher than the normal aspiration movement the cyclist will move according to the 2D6 roll. If the roll is less than the normal aspiration move he will use normal aspiration.

On a normal aspiration move of 9 or 10 squares, there is no acceleration possible.

Since on cobblestones each cyclist has to roll and no aspiration is possible the advantage here is that the cyclist with the corresponding color of the track section will roll 3D6 on cobblestones, using the 2 highest values of the roll.

Example :

As you see in the starting situation it is a green section (see de marker above the track), so the green rider can possibly try to accelerate.

										🟩				

⬛	⬛	⬛								🟥	🟦	🟪		
⬛	⬛										🟩			
											🟨			

Red rolls 7 and moves 7 squares. Due to the hierarchy it is first to yellow to use aspiration. So yellow moves behind red. When green uses normal aspiration he would move 6 squares (follow behind yellow) but since it is a green section he might try to accelrate. He rolls 9 and moves 9 squares. Blue and purple use normal aspiration to follow green.

▥	▥	▥	🟥	🟨								
▥	▥	🟩	🟦	🟪								

3.3.6. Using aspiration uphill

Not all riders have the same climbing capabilities. Whem climbers or leaders set the pace uphill it is obvious that sprinters or helpers could become in trouble.
Depending on the category of the climb, cyclist with less climbing capabilities can still use aspiration or not. The same rule exists for countering an attack uphill..

There are 4 categories in climbs: HC (hors category), 1st Cat, 2nd Cat and 3rd Cat.

The hierarchy of the different types of riders in the race reflects also their climbing capabilities (in mountain stages climbers will have the highest hierarchy).

The possibility to use aspiration works as follow:

HC	only riders with equal or higher hierarchy can use aspiration/counter
1st C	there may only be one level difference in hierarchy between the front rider (rolling the dice) and the one who would use aspiration
2nd C	there may be two levels difference between the front rider (rolling the dice) and the one who would use aspiration
3rd C	all riders can use aspiration; sprinters cannot counter

Example:

The riders are at the start of a climb of 1st Cat. So it means that there may be maximum 1 hierarchy level difference between the rider who roll for the move and the rider who want to use aspiration. Notice the red steepness malus points.

-4	-4	-3	-3	-3	-3	-2	-2	-2	-1	-1		
								🟥	🟦	🟨	🟩	
									🟨	🟦		

The red climber rolls an 8, so minus the malus of -2 he will move 6 squares. Next is the first yellow leader who uses aspiration. The first blue helper can not use aspiration because there are 2 levels difference in hierarchy. So he has to roll. Then the second yellow leader can use aspiration and comes behind de first yellow. Again the second blue helper can't also use aspiration. Although the green sprinter has 3 levels difference in hierarchy with the climber he can use aspiration because he starts his move on a square on a flat section. After all riders that could use aspiration have moved,

there will be rolled for the ones that couldn't use aspiration. So the first blue helper rolls a 3, with the malus of -1 he moves 2 squares. The second blue helper could use aspiration because he has the same hierarchy level but he doesn't because the move will the less than 6 squares. He roll a 5 and moves 4 squares.

If there had been 2 blue helpers on the row behind the climber instead of the helper and the leader than nobody could had use aspiration since as there is one row with no cylcist using aspiration   the aspiration stops.

-4	-4	-3	-3	-3	-3	-2	-2	-2	-1	-1		
		red	yellow	yellow	green		blue					
					blue							

When a cyclist using aspiration should move more than an equivalent roll of 10, apiration is not anymore possible (as the normal aspiration rule). This cause sometimes a split in the peloton when going over the top.

Example:

The front of the group passes the top of a climb of 2nd Cat.

									-6	-6	-5	-5	-4	-4
							yellow	green	red	green	yellow			
									blue	red				

The yellow leader rolls a 6 and the green sprinter uses aspiration and follows yellow. He can do this because he doesn't start on a uphill square, so the difference in hierarchy doesn't count. Normally the red climber could use aspiration because his hierarchy is even higher than that one of the leader who rolled. But he can't because when using aspiration he would move 6 squares (right behind green) and counting the -6 malus where he start it would be a move equivalent to a roll of 12 (and moving more than a equivalent roll of 10 stops aspiration). So red had to roll. He rolls 10 and moves 4 squares. The blue helper uses aspiration and follows red. The second red climber also uses aspiration. The green sprinter can't use aspiration because his hierarchy level is 3 levels difference compared to the climber. At least the yellow leader uses aspiration and follows de second red climber. Then the green sprinter rolls a 5. When counting the malus of -6 he can't move, but the rule is that a rider makes at least a move of 1 square.

									-6	-6	-5	-5	-4	-4
	yellow	green		red	blue	red	yellow	green						

The qualification of the climb should be predetermined in function of the nature of the race.

So it is clear that in the Tour de France the Mont Ventoux will be a col HC (hors category) but for example, in the Tour of Flanders the Koppenberg will also have a qualification HC because this is also a breaking point in that particular race..

3.3.7. Cobblestones

As indicated before cobbelstones are a little bit special. So here an overview of the rules:

- Using aspiration is not allowed, neither trying to counter.
- Every cyclist rolls 2 D6, except the cyclist with a color corrresponding to the color of the track section, he rolls 3D6 and uses the 2 best of it (he is the one who can try to accelerate).
- If there are several cyclist beside each other, the cyclist with the highest hierarchy in the race goes first.
- The noving cyclist will land on the square with the lowest roughness (lowest malus number).

Example :

Assume that the hierarchy in this race is yellow, green, red and blue. The riders are on a cobblestone section where yellow can try to accelerate

The starting situation..

-4	-1	-1	-4	-1	-2	-3	-1	-2	-1	-1	-1	**-3** (blue)	-1	-2
-1	-2	-2	-1	-3	-1	-1	-4	-2	-4	-2	-2	-1	-4	-1
-2	-1	-4	-2	-1	-2	-2	-1	-1	-1	-3	-1	**-1** (green)	**-1** (yellow)	-1
-1	-3	-1	-1	-2	-4	-1	-2	-3	-2	-1	-4	**-2** (red)	-2	-3

Green goes first and rolls 11. Starting on a -1 he moves 10 squares. He choose the square with the lowest malus number to land, so the rightmost -1. On other surfaces yellow could try to counter, but on cobbelstones this is not possible. Next in hierarchy is red who rolls an 8. Starting from a -2 he moves 6 squares and lands on a -1; No aspiration allowed so blue has to roll. He rolls 6 starting from a -3 he moves 3 squares. Now it is up to yellow for moving. Since his color is the same hqd the color of the section, he may try to accelerate rolling 3D6. He rolls 6, 3 and 6. So using the 2 highest of them he made a roll of 12. Starting on a -1 he moves 11 squares and lands beside green. He choose the leftmost square since that square has also a -1.

-4	-1	**-1** (green)	-4	-1	-2	-3	-1	-2	**-1** (blue)	-1	-1	-3	-1	-2
-1	-2	-2	-1	-3	-1	**-1** (red)	-4	-2	-4	-2	-2	-1	-4	-1
-2	-1	-4	-2	-1	-2	-2	-1	-1	-1	-3	-1	-1	-1	-1
-1	-3	**-1** (yellow)	-1	-2	-4	-1	-2	-3	-2	-1	-4	-2	-2	-3

4. The Random Event Table

When a cyclist rolls a 7 a random event can happen. He has to roll 2D6 and has to look at the event table.
What is happening due to the table must be carried out immediately.

In case it is raining or the cylist is on a coblestone track section there will be a punishment of -1 on the roll. A roll on coblestones in the rain give a maximum punishment of -2.

The event table :

2	crash
3	flat tire : the rider has to skip 1 turn
4	steering error, the cyclist moves according of the roll of 1 D6.
5 to 10	nothing happens : just 7 forward
11	acceleration, move 10 boxes forward
12	attack, move 12 boxes forward = cyclists behind may try to counter

If a rider makes a crash, all riders who are right behind him crash too. The crashed riders can evade the crash by rolling a 6 (1D6), in this case they will move 7 squares. A crashed rider should skip 1 turn.

5. The finish and sprint

If the first rider that passes the finish belongs to a group, then all riders of that group will also finish! A group consists of riders where no empty row of squares is in between (no gap).

Example :

The first 5 riders are in the same group and will sprint for the victory. Between the 5 riders in the front and the 3 other riders is a gap so they can't win anymore.
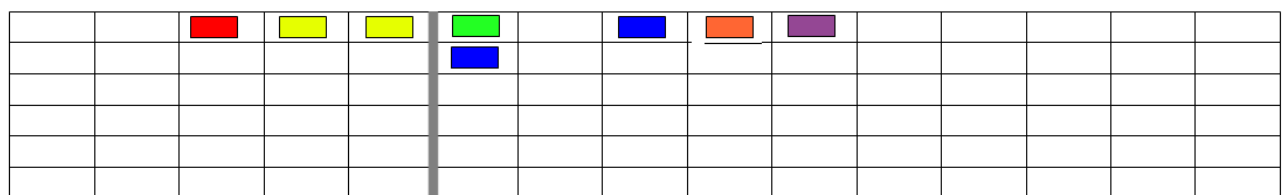
Finish

A group of riders that finish on a flat section had to sprint to determine who eventually wins. Each rider rolls one dice and using aspiration is no longer allowed. But there is a sprinting benefit. Per row of riders that the sprinting rider passes (not aside , but beyond) he gets one bonus sqaure.

A sprinter rolls in the sprint with 2 dice!!

A blockade never occur in te sprint.

Example :

A group of 7 riders passes the finish line. Only the green rider is a sprinter.

Finish
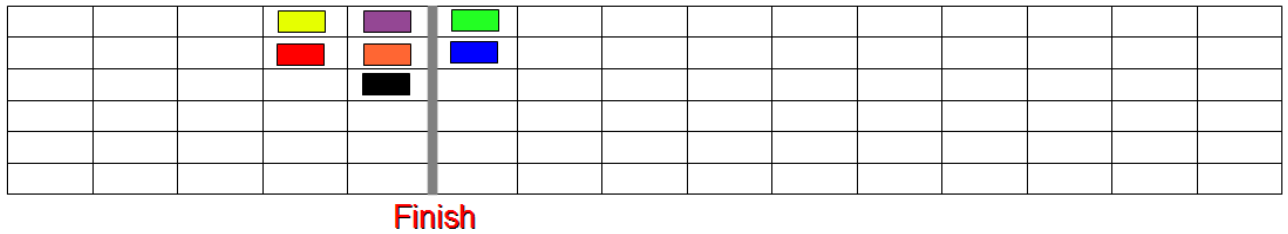
The the yellow rider rolls 6 (1D6), the red one rolls 4. The purple 3. The orange rider rolls 4 and by moving 4 squares he passes purple and gets 1 square extra, so he moves 5 en comes beside red. Then black rolls 6. With the move of 6 he passes purple and red/orange. So he gets a bonus of 2 squares and moves 8 squares. Red/Orange give only 1 bonus square since they are on the same row (so only the rows count, not the riders). The green spinter rolls 8 (2D6) and when passing Purple and Red/Orange he gets 2 bonus squares. By moving 10 squares he will win the race. At least the blue rider rolls 4. He moves 4 squares and comes beside purple. He get no bonus since only the rides that are passed counts.
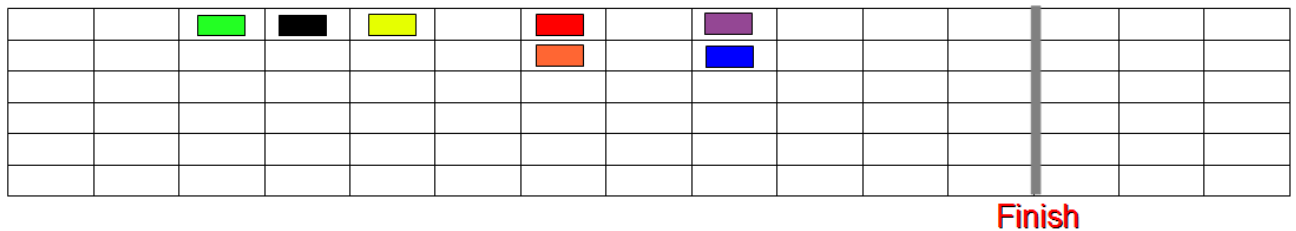
Finish

If the finsih is on top of a climb there is no sprinting and the race result is according to the place the riders have at the end of the gane turn (when 2 riders arrive besides each other, the rightmost goes first).

5. Stage races

5.1. Time delays

When disputing a stage race there is need for a system to measure the time differences between the riders.
The time measurement when finishing on a flat road or on a top of a climb is different.

5.1.1   Arrival on a flat road

The time differences are measured between the first rider of the winning group (or the solo winner) and the first riders of each group or individual riders coming behind. Riders belonging to the same group (no gap in between) will have the same time. Sprinting is done after the time measurement so note the time delay before.
Each game turn behind counts for 1 minute, each square difference between the square where the first rider of the winning group (or the solo winner) ended and the square where the rider that arrives ends counts for 6 seconds (in malus or plus).

Example :

The group of 3 riders in the front is arrived, all 3 the same time. They will sprint for the position in the race result, but that has no effect on the time measuring. The 3 riders behind are still not at the finsih

Finish
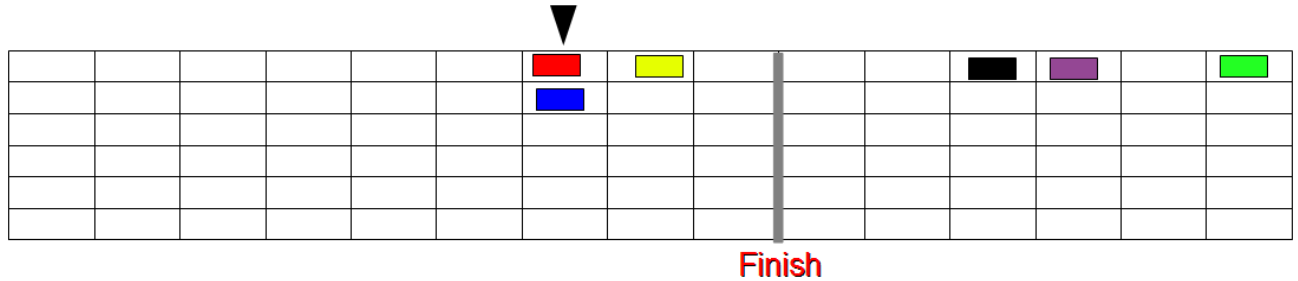
In the next game turn the black rider rolls an 8, and the purple rider uses aspiration. The green rider rolls a 6. Since balck and purple belong to the same group, they get the same time difference. Black arrives 3 squares beyond the square where red arrived in the previuos turn. So the time difference is 1 minute (1 game turn) minus 3 squares (3 x 6 seconds), so black and purple arrives 42 seconds behind the first 3 riders. They do have to sprint for place 4 and 5.
Green is over the finish so he is also arrived. He ends 2 squares before the square where red ended the previous game turn. So he is 1 minute (1 gane turn) plus 2 squares (2 x 6 seconds) behind, that makes 1 minute and 12 seconds.
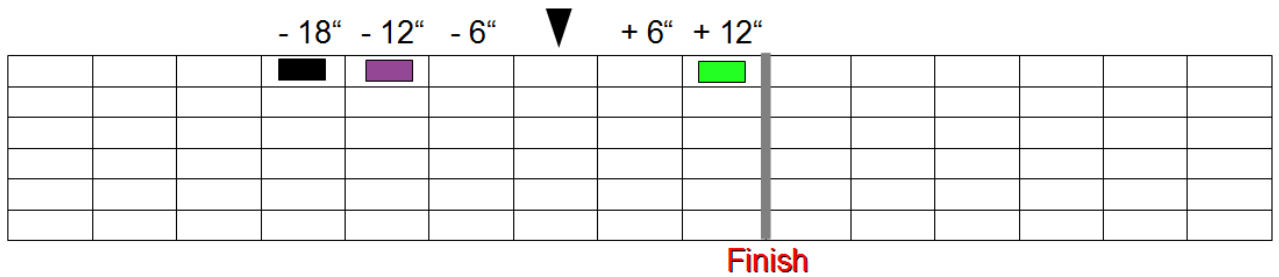
Finish

5.1.2 Uphill arrival

When the arrival is uphill a different system is used. All riders that pass the finish line in the same game turn as the winner (or first rider of a chasing group) are finished.
The winning rider is the rider who at the end of the turn end on the farthest square (i.e. not necessarily the rider who came first over the finish line). When 2 riders ends at equal height then the rightmost goes first in the result. There is no sprinting. The riders belonging to a group don't have the same time, but the arrival time is measured for each rider separate according to the square he ends.
Each game turn behind counts for 1 minute, each square difference between the square where the first rider of the winning group (or the solo winner) ended and the square where the rider that arrives ends counts for 12 seconds (in malus or plus).

Example :

4 riders are finished because they have passed the finish line. At a first look it seems green and red belong to the same group but this is not the case since they don't have passed the finish line. There is no sprinting. Time difference 12 seconds for each square behind. So black wins the race. Purple is second before blue at 12 seconds (the rightmost goes first). Yellow is fourth at 24 seconds.

▼ + 12" + 24" **-6   -6   -5   -5   -4   -4**

Finish
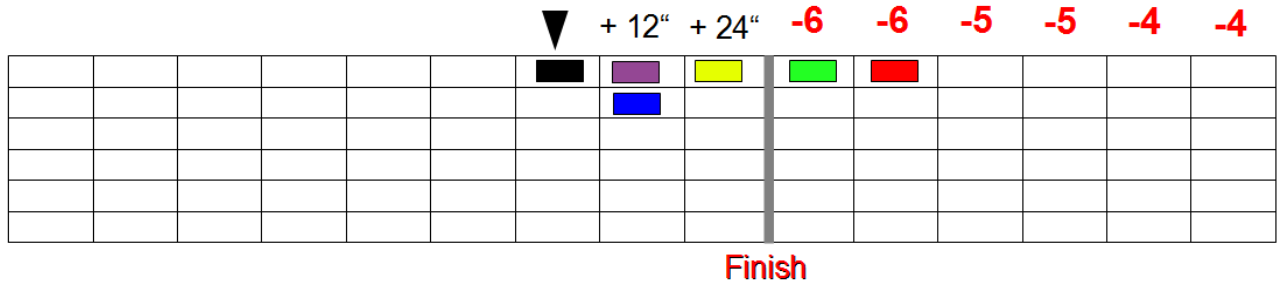
In the next game turn green roll 7 and with the malus of 6 he moves one square. Red is a climber and the climb is a red section so with an aspiration movement of 7 (if he follows green) he may try to accelerate. He rolls 11 and moves 5 squares. If his acceleration try would have failed he had used normal aspiration and was not arrived yet.
Although green went over de finsih line before red, red will be fifth and green sixth because red arrived further at the end of the game turn.
Time difference to the winner : red 1 game turn minus 1 square so 48 seconds, green 1 game turn plus 2 squares so 1 minute and 24 seconds.

- 12"   ▼   + 12" + 24" **-6   -6   -5   -5   -4   -4**

Finish
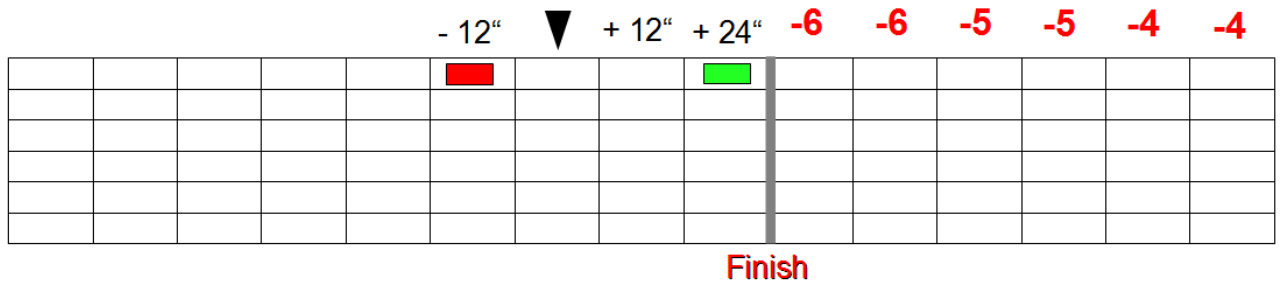
5.3. The prologue

Some stage races starts with a prologue: a short individual time trial. The system is pretty simple.

10 dice (10D6) are rolled for each rider. Each "eye" difference corresponds to 1 second.

Leaders may maximum reroll 4 dice with rolled values of 1 and 2 . Depending on the type of stage race climbers or sprinters may maximum reroll 2 dice with rolled values of 1 and 2.

No points for the point ranking.

5.4. Bonus seconds

There are at the finish bonus seconds to gain unless it is a mountain stage.
The first 5 riders get : 10 seconds, 6 seconds, 4 seconds, 2 seconds and 1 second bonus.

A moutain stage is a race with at least one climb of first category.

In the intermediate sprints the first 3 riders get: 6 seconds, 4 seconds and 2 seconds boni.

The intermediate sprints are held as ordinary sprints but are virtual. The riders are left on their place and the numbered sprint markers are used to carry out the sprint (place a numbered marker beside each rider, the number corresponds with his place in the group)

If in the real race there are no time bonuses it may also be skipped in the simualtion.

5.5. The general ranking

This ranking records the time delays for each individual rider. The delay times for each rider will be added at the end of each stage. The leader is the rider with the lowest delay (after classification deduct his time delay from all the time delays of all riders so the leader comes on a delay of 0'00" and the others on their exact time delay.

Don't forget to count the possible bonus seconds deserved in the stage !

5.6. The ranking by points

Following point allocation is used:

       intermediate sprint   : 10, 8, 6, 5, 4, 3, 2 and 1 points
       arrival normal stage   : 15, 12, 10, 8, 6, 5, 4, 3, 2 and 1 points
       arrival mountain stage   : no points

If there is a "flat" stage race held without climbers, but with climbs HC en 1st C due to the spirit of the race the stages with climbs HC and 1st C can still have points as an normal stage.

5.7. The king of the mountains classification

Points for the mountain standings can be earned on the top of climbs and cols, as follows:

       HC   : 15, 12, 10, 8, 6, 4, 2 and 1 point
       1st C   : 12, 10, 8, 6, 4, 2 and 1 point
       2nd C   : 8, 6, 4, 2 and 1 point
       3rd C   : 6, 4, 2 and 1 point

Lots of fun !!!!!!!!!

Appendix 1 : Route shedule

Part of the fun in this simulation game is to design a route shedule that represents the real race.

There is a template to use as starting point to note all evenst and places in a uniform way.

An example of the template:

Above the name of the race.

In the first column write the names of major locations and places in the race.

The column km (kilometers) gives the kilometers in the real race shedule.

The third column shows the events : intermediate sprints (Sp), cobblestone sections (with start en endpoint) and climbs (also with start and endpoint) For the climbs there is an indication about their category (in this case C1 means 1st Cat) and between brackets the maximum steepness at the top (so the maximum malus is here -5).

Name of the Race				
location	km	event	sqr	sec
Location 1	0			
Location 2	25		170	
Intermediate Sprint	50	Sp	140	
Cobblestones (start)	77		115	
Cobblestones (end)	80	Cobbel	100	
Location 3	90		85	
Col (start)	120		65	
Col (top)	130	C1 (5)	50	
Location 4	140		20	
Location 5	160		0	

► ▌ leader, ▌ sprinter, ▌ climber, ▌ helper,

The fourth column shows the amount of squares to go to the finish. As you can see the race is 170 squares long and begins at Location 2 of the real race (since a "flying start" is always used). There is no mathematical link between the real kilometers in the race and the sqaures due to game mechanics. For example : climbs should have at least 12 squares length otherwise a rider who rolls a 12 could skip the climb (if the climb would have a length of 9 or 10) and also due to game mechanics there are never downhill sections.

The fifth column shows the color of the section which means what type of riders can try to accelerate. So in the example the sprinters (green) will try to accelerate betrween squares 170-140, from 140-115 are helpers in advantage, the leaders on the cobbelstones from 115-100, again the helpers from 100-85, the leaders from 85-50, the climbers on the col from 65-50. Afterwards the leaders again from 50 tot 20 and the last 20 squares are for the sprinters to try to accelerate.

Below the table the hierarchy between the rider types is indicated.

Appendix 2 :game components

Cyslists : 9 teams of 4 riders
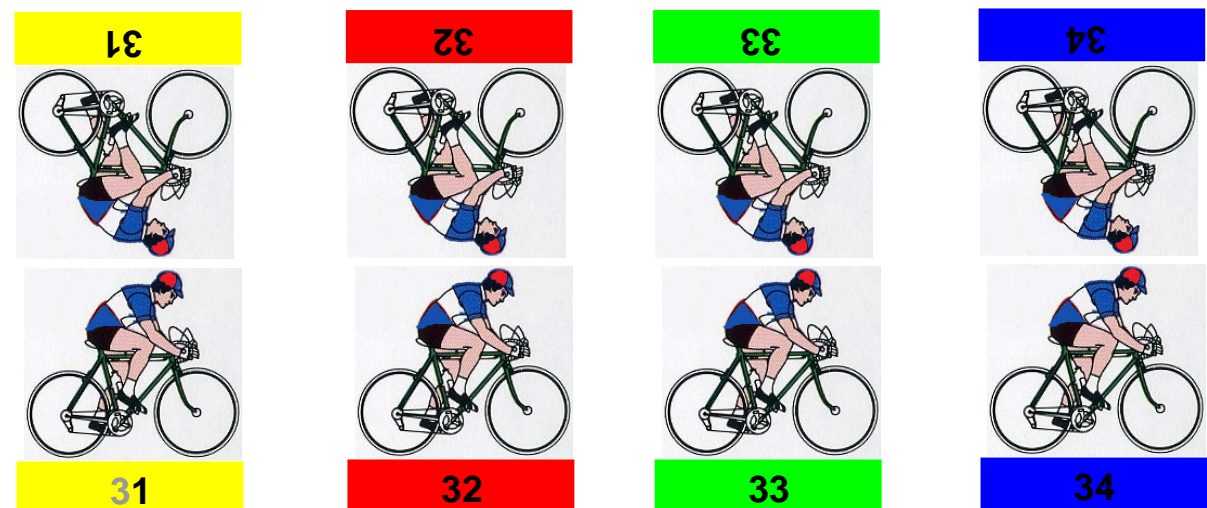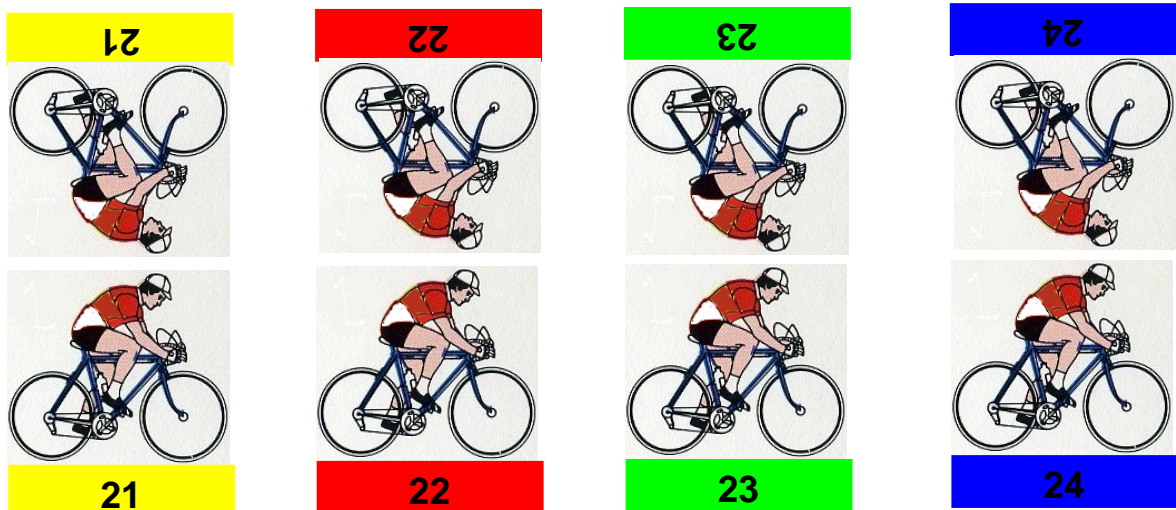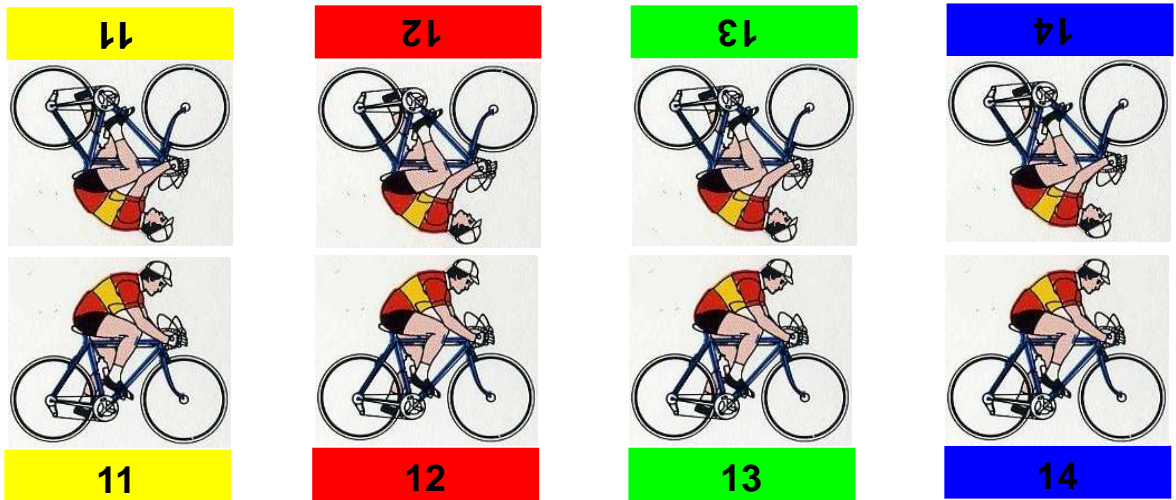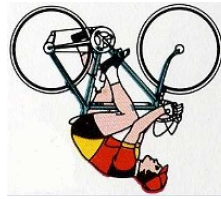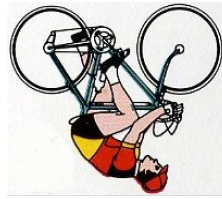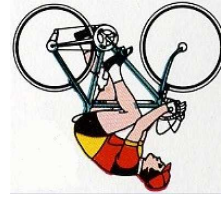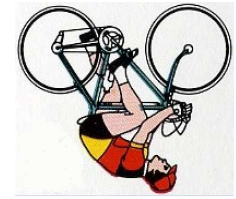
11	12	13	14

21	22	23	24

31	32	33	34

41 42 43 44

51 52 53 54
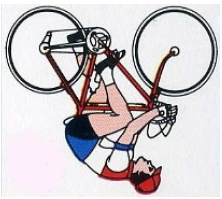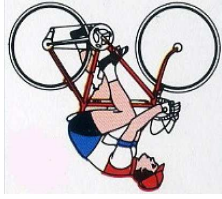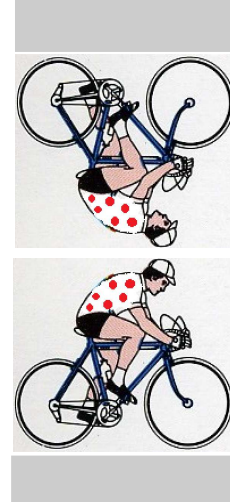
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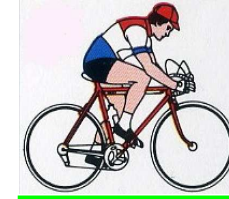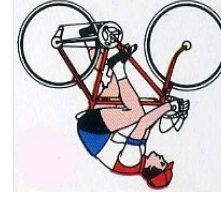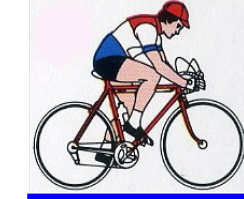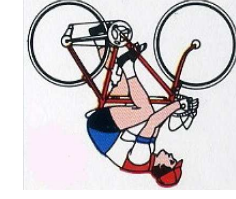
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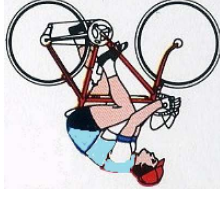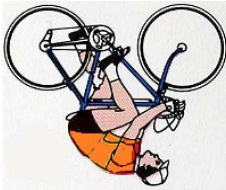
81 82 83 84
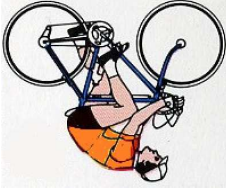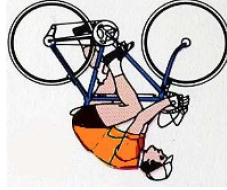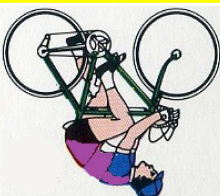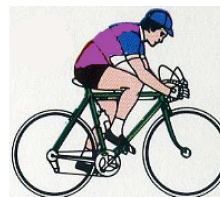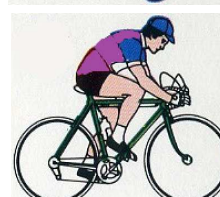
91 92 93 94

Leader jerseys
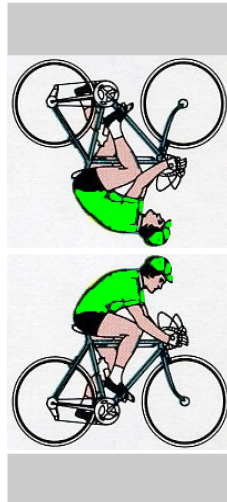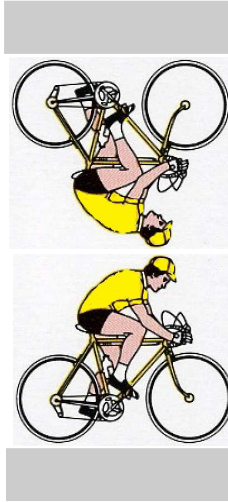
Intermediate Sprint tokens

Use them for *virtual* intermediate sprints

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36				
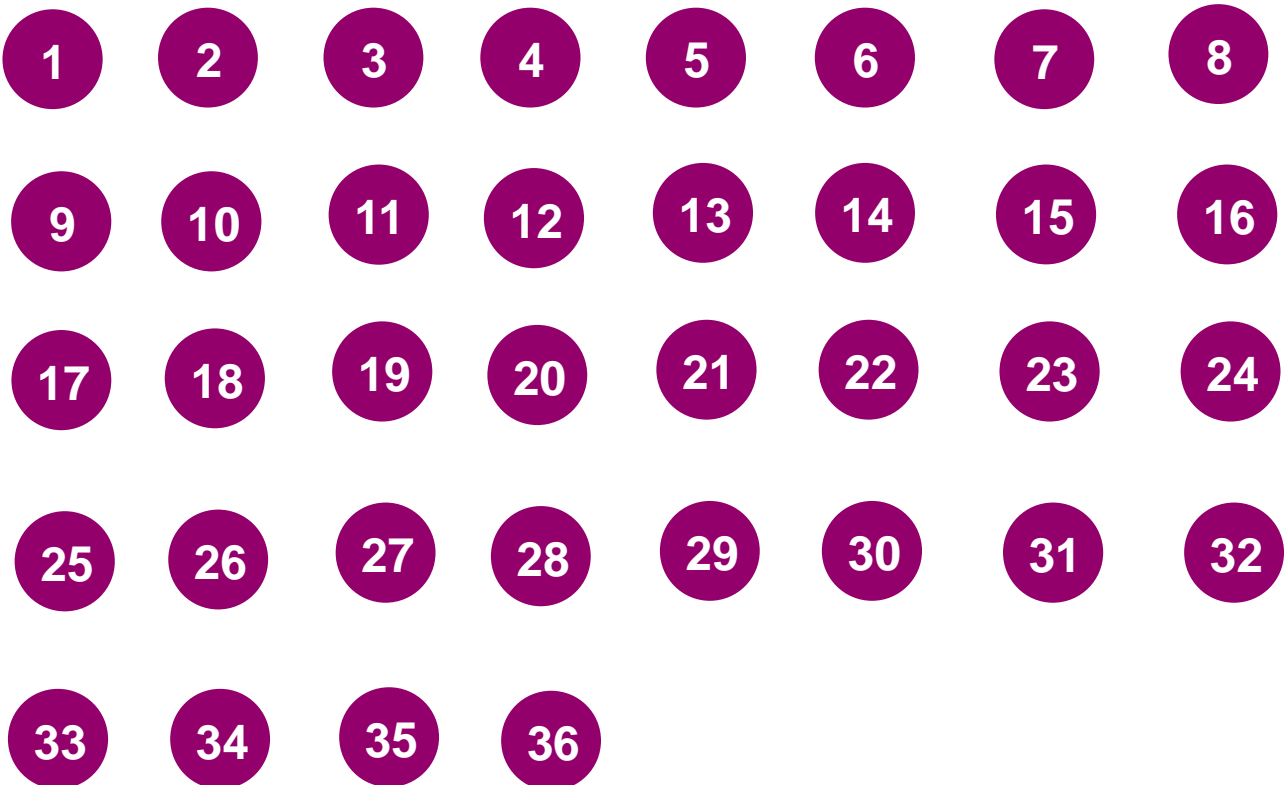
Zone markers

Use the markers to indicate what type of rider can try to accelerate in that part of the race.

Leader	Leader
Leader	Leader
Climber	Climber
Climber	Climber
Sprinter	Sprinter
Sprinter	Sprinter
Helper	Helper
Helper	Helper

Start, Finish, Mountain Top, Intermediate sprint markers

Use them to indicate special points in the race..

FINISH START MOUNTAIN MOUNTAIN MOUNTAIN SPRINT SPRINT SPRINT

Mileages markers

Use them to indicate the amount of sqaures till the finish..

| 20 | 40 | 60 | 80 | 100 | 120 |

| 140 | 160 | 180 | 200 | 220 | 240 |
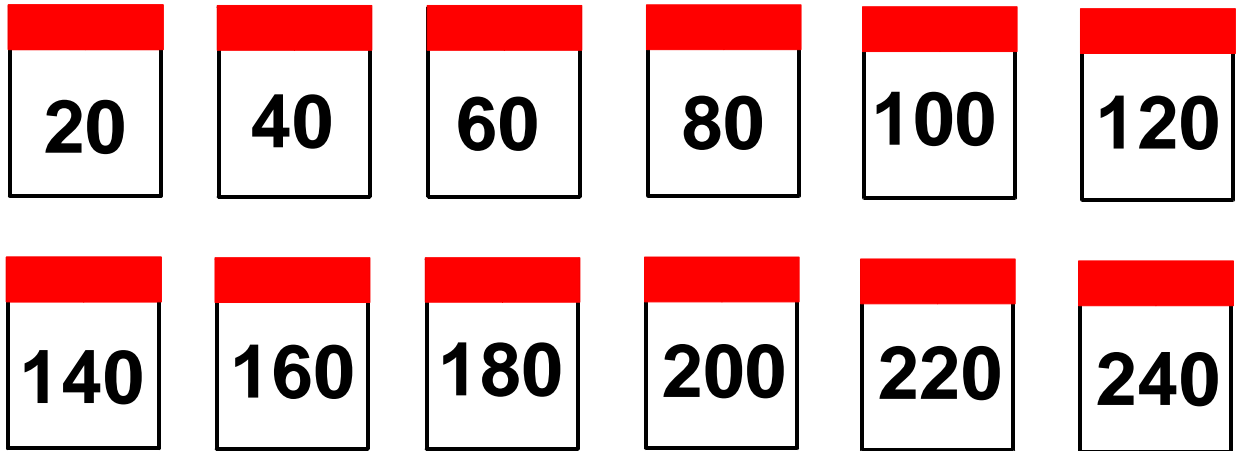
Steepness markers

Use them to indicate the steepness on the uphill sections.

| 1 | 2 | 3 | 4 | 5 | 6 |

| 1 | 2 | 3 | 4 | 5 | 6 |

| 1 | 2 | 3 | 4 | 5 | 6 |

| 1 | 2 | 3 | 4 | 5 | 6 |
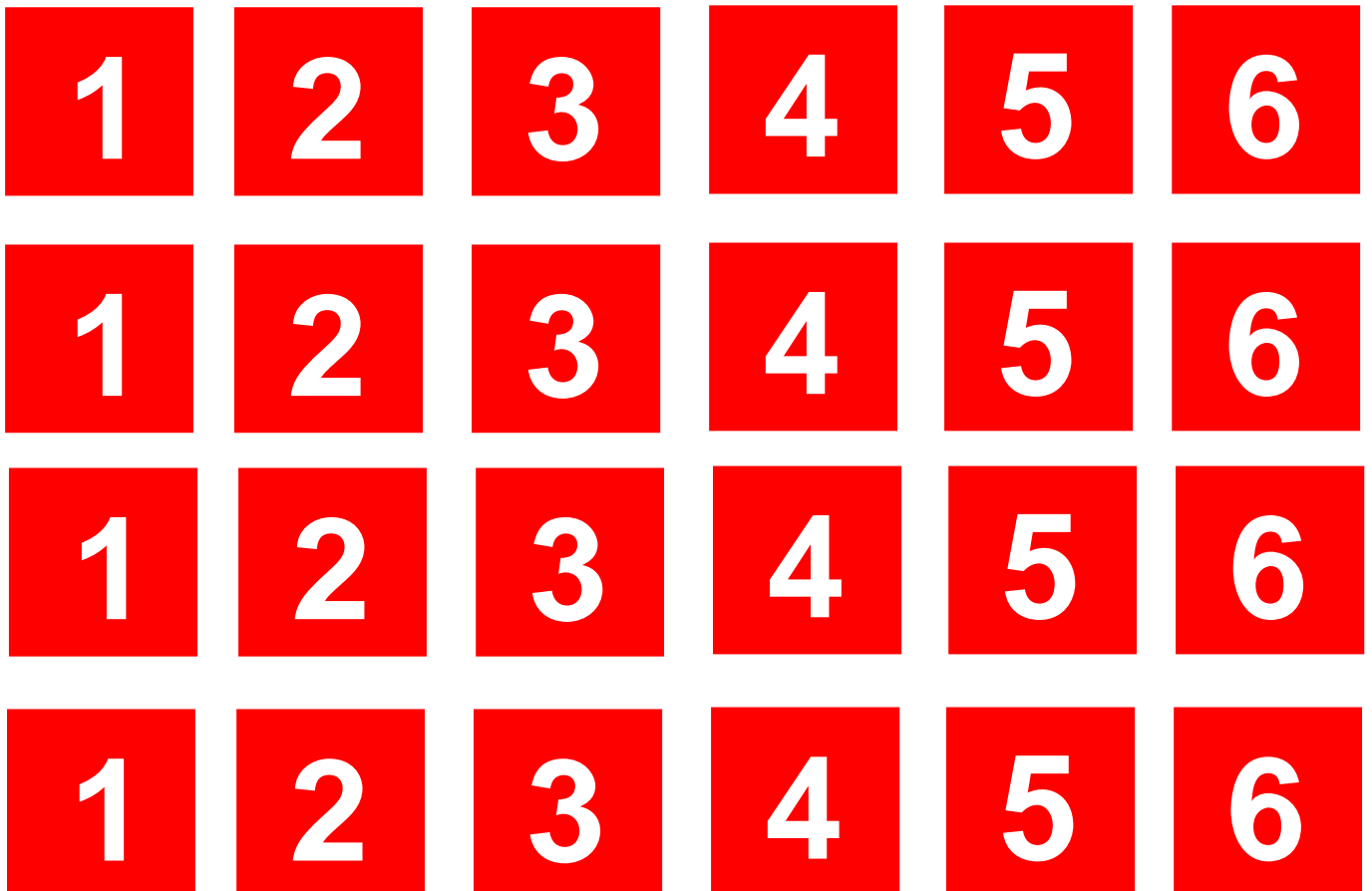
Track parts

Print several of them to make a track..
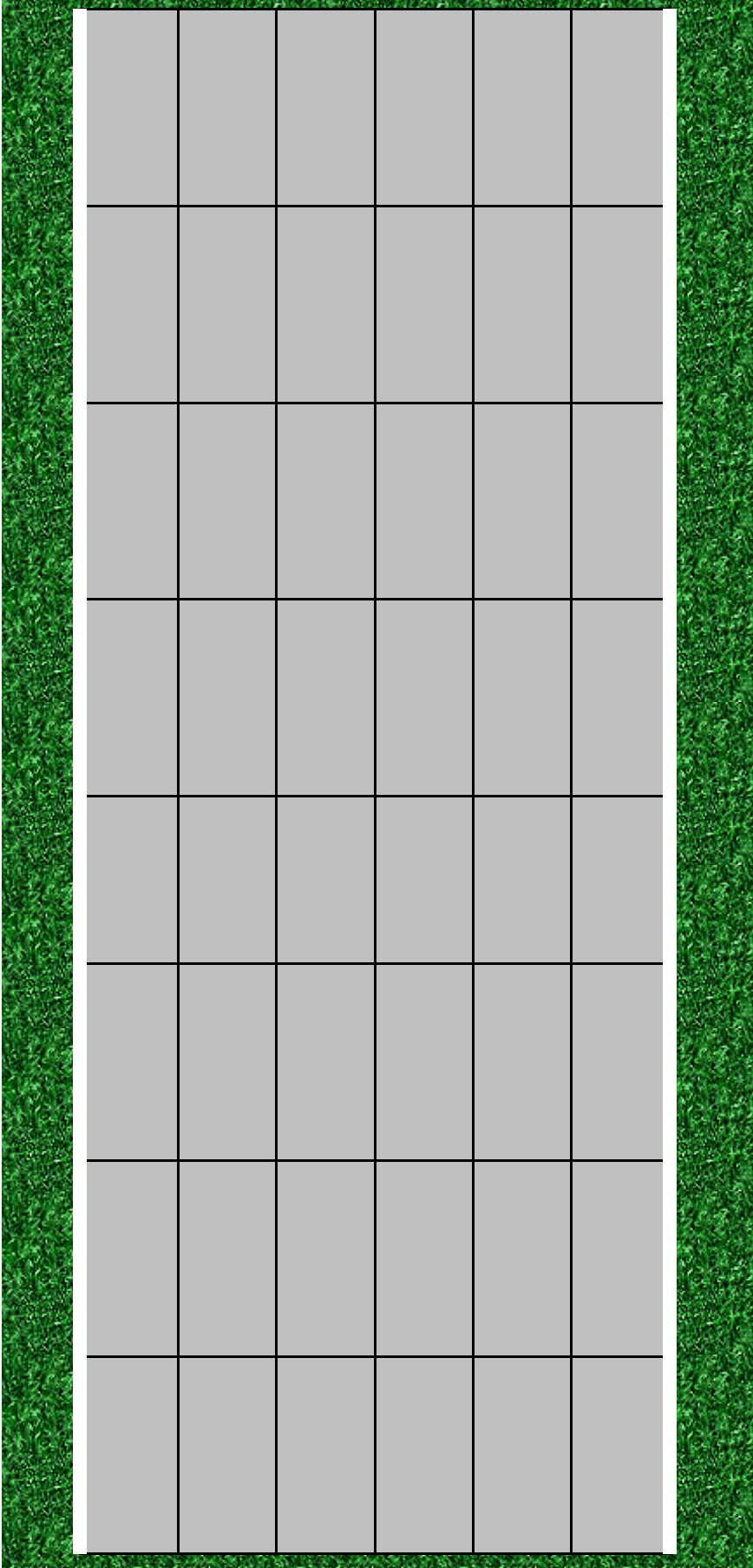
Track parts

Cobblestones

4	1	1	2
2	2	1	3
2	1	4	1
4	1	1	2
1	3	1	2
2	1	4	1
2	1	2	3
1	4	2	1
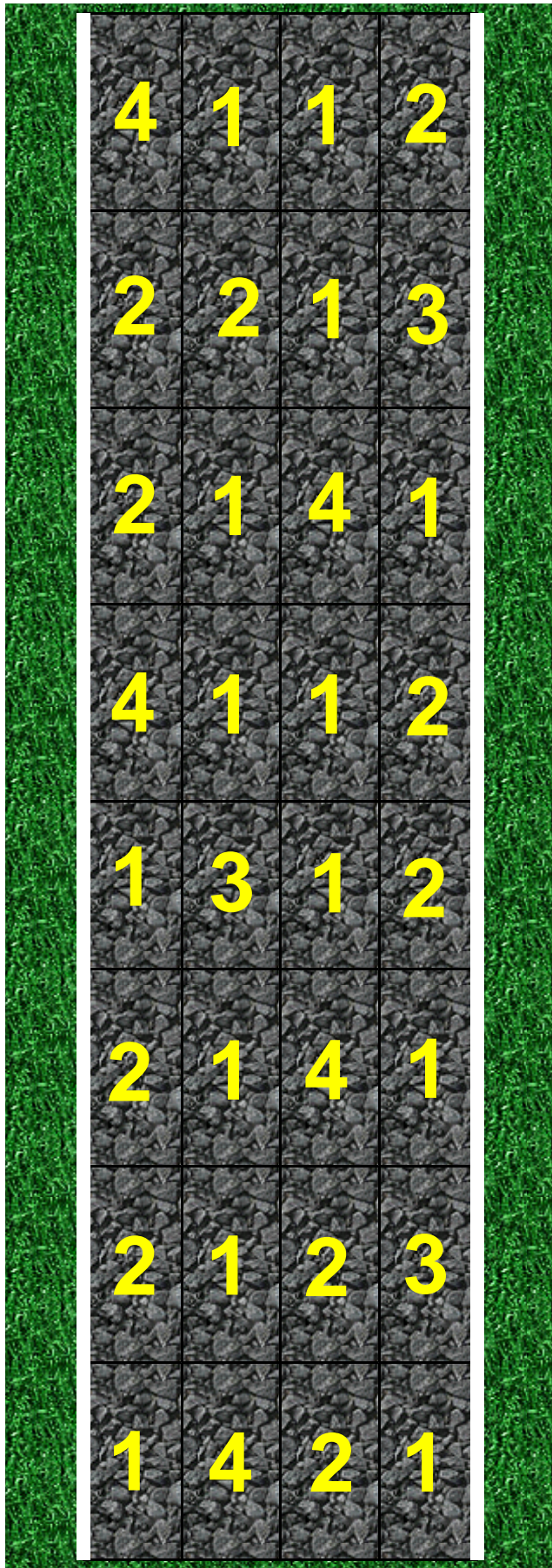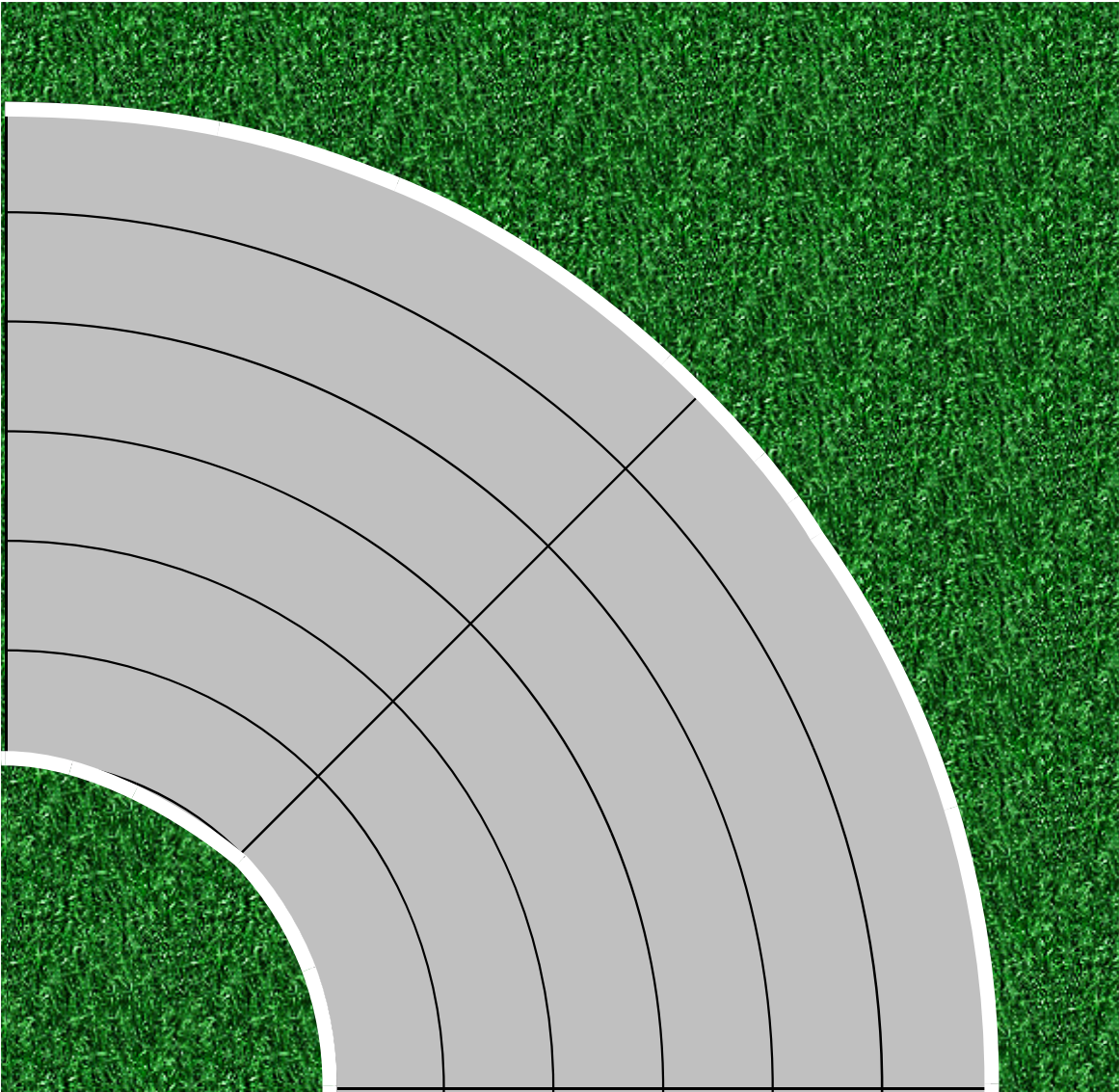
Appendix 3 : impressions of a simulated race

With this pictures I will try to give an impression how a race looks, using my own game components and own Riders (brand Fonderie Roger).

The first picture is a typical situation of the start of the simulation. With the „flying start" we enter a race that is already on-going. We see 3 riders that are escaped from a closed peloton.

After a climb there is one attacker in the front and a chasing group of 13 riders. This group is escaped from the peloton at the top of the climb. Due to the slipstream rules, the peloton keeps the typical formation, not the endless chain as in may other games.

Further in the race there is an intermediate sprint. The lonely attacker is caught by the chasing group and there is a new escape with 3 riders. The peloton is almost back in the wheel of the chasing group.

The front riders are 18 squares from the finish line. There are 3 groups of riders. .

The finish. One rider arrives solo, the group of 9 is sprinting for the second place. Depending on the dice roll they will arrive approximately 30 seconds behind the winner. The next bunch of riders will have a delay of more than 1 minute. Note that in the back a few riders couldn't follow the peloton and will arrive with a big delay.